

Amendment Dated April 28, 2008

Reply to Office Action of December 13, 2007

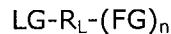
Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-16. (Canceled)

17. (Currently Amended) A process for preparing at the modified polyurethane comprising a lipid substituent pendant from at least one urethane nitrogen and/or at least one carbon atom of the modified polyurethane of claim 1, the process comprising:

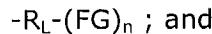
providing a polyurethane comprising a urethane amino moiety and at least one carbon; providing a multifunctional linker reagent of a formula:



wherein n is an integer from 1 to 3, FG is a functional group selected from the group consisting of a halogen, a carboxyl group, a sulfonate ester, and an epoxy group, LG is a leaving group selected from the group consisting of a halogen, a carboxyl group, a sulfonate ester, and an epoxy group, and R_L is an (n+1)-valent organic radical comprising at least one carbon atom;

providing a lipid comprising the lipid substituent;

reacting the multifunctional linker reagent with the urethane amino moiety to form a polyurethane substituted with at least one substituent group of a formula



reacting the lipid and the polyurethane substituted with the at least one substituent group to form the modified polyurethane;

wherein the lipid comprises a steroid lipid and the lipid substituent comprises a steroid lipid substituent;

wherein the steroid lipid comprises modified cholesterol and the steroid lipid substituent is a member selected from the group consisting of a thiol-modified cholesterol substituent, an amino-modified cholesterol substituent, a carboxy-modified cholesterol substituent, and an epoxy-modified cholesterol substituent;

wherein the modified cholesterol is prepared by contacting a cholesterol with at least one reactant to provide at least one substituent group on the modified cholesterol, wherein the substituent group is a member selected from the group consisting of a thiol group, an amino group, a carboxy group, and an epoxy group; and

wherein the modified cholesterol is a thiol modified cholesterol and wherein the step of treating the cholesterol with at least one reactant comprises treating the cholesterol with

epihalohydrin to yield a glycidyl modified cholesterol and treating the glycidyl modified cholesterol with a thiolating agent.

18. (Previously Presented) The process of claim 17, wherein R_L is a bivalent organic radical selected from the group consisting of C₁ to C₁₈ alkylene, C₁ to C₁₈ alkyleneamino, C₁ to C₁₈ alkyleneoxy, C₁ to C₁₈ haloalkylene, C₂ to C₁₈ alkenylene, C₆ to C₁₈ arylene, a modified C₂ to C₁₈ alkenylene having at least one carbon substituted by a halogen group, C₂ to C₁₈ alkenylene having one or more O, S, or N atoms incorporated into an alkenylene chain, a bivalent heterocyclic radical, and mixtures thereof.

19. (Previously Presented) The process of claim 18, wherein the multifunctional linker reagent is a member selected from the group consisting of a dibromoalkyl compound, a bromo-carboxyalkyl compound, and a bromo-epoxyalkyl compound.

20-21. (Canceled)

22. (Currently Amended) The process of claim 1721, wherein the modified cholesterol comprises 3-mercaptop-2-hydroxypropyl-cholesterol.

23-24. (Canceled)

25. (Currently Amended) A process for preparing at the modified polyurethane comprising a lipid substituent pendant from at least one urethane nitrogen and/or at least one carbon atom of the modified polyurethane of claim 1, the process comprising:

reacting a steroid lipid with epihalohydrin to yield a glycidyl derivative of the steroid lipid;

reacting the glycidyl derivative of the steroid lipid with a thiolating agent, thereby effecting opening of the glycidyl oxirane group and adding to said lipid molecule a thiol moiety having a protective group bound thereto;

removing said protecting group to produce a thiol-substituted steroid lipid;

reacting a polyurethane with a bi-functional linker comprising a thiol-reactive group, to yield an intermediate polyurethane having a thiol-reactive functional group wherein the thiol-reactive functional group is substituted on said urethane group nitrogen; and

reacting the thiol-substituted steroid lipid with the intermediate polyurethane having a thiol-reactive functional group to yield the modified polyurethane.

26. (Previously Presented) The process of claim 25, wherein the epihalohydrin is epibromohydrin.
27. (Previously Presented) The process of claim 25, wherein the thiolating agent is selected from the group consisting of thiosulfate, thiourea, trityl mercaptan, tert-butyl mercaptan, thiocyanate, and thioalkanoic acids having 2-6 carbon atoms.
28. (Previously Presented) The process of claim 27, wherein the thiolating agent is thioacetic acid.
29. (Previously Presented) The process of claim 25, wherein the bi-functional linker is a dihaloalkane having 1-12 carbon atoms.
30. (Previously Presented) The process of claim 29, wherein the bi-functional linker is 1,4-dibromobutane.
- 31-40. (Canceled)